

CIWv5 Foundations Series

Internet Business Foundations v2.0



Internet Business Foundations prepares you to work effectively in today's business environment. In this course, you will learn about the tasks involved in various Information Technology (IT) job roles, and explore career opportunities in the IT industry. You will also learn about Internet connection methods, Internet protocols, the Domain Name System (DNS) and cloud computing. You will study the basic functions of Web browsers, the components of Web addresses, the use and control of cookies, and browser use in the business world. You will learn how browser plug-ins and add-ons can improve your Web-browsing experience, and you will use browsers to download and manage files.

You will learn about databases as they relate to Web search engines, and you will use search engines to conduct basic and advanced Web searches. This course also teaches you to configure e-mail clients and use e-mail, and it provides guidelines for communicating effectively over the Internet using modern Web technologies and social networking tools. You will also learn about Internet research and collaboration tools, software development tools, and the patent and licensing practices that accompany software applications.

You will learn about the risks associated with being connected to the Internet, and about the security measures that can keep your computer system and your personal information secure. Finally, you will study the fundamental elements of project and program management, and the importance of acquiring these skills for all IT job roles.

Topics

Introduction to IT Business and Careers

- Information Technology (IT)
- IT Job Roles
- IT Industry Career Opportunities
- Technical Concepts and Training
- Technology Adoption Models
- Business Modeling
- Data Modeling
- The Importance of Standards

Introduction to Internet Technology

- Internet Technology
- Overview of Networks
- Overview of the Internet
- Connecting to the Internet
- Internet Protocols
- Domain Name System (DNS)
- Cloud Computing

Web Browsing

- Introduction to Web Browsing
- Basic Functions of Web Browsers
- Installing a Web Browser
- Web Addresses
- How Browsers Work
- Browser Choices
- Resources for Technical Data
- Browsing Techniques
- Browser Elements
- Configuring Web Browser Preferences
- Cookies
- Configuring Browser Security

- Proxy Servers
- Google Chrome
- Troubleshooting Internet Client Problems
- Browsers in the Business World

Multimedia on the Web

- Introduction to Multimedia on the Web
- Objects, Active Content and Languages
- Objects and Security Issues
- Introduction to Plug-in Technology
- Data Compression and Decompression
- Plug-in Installation
- Types of Plug-ins
- Firefox Add-Ons
- Types of Viewers
- Miscellaneous File Formats
- Downloading Files with a Browser

Databases and Web Search Engines

- Introduction to Data Searching Tools
- Overview of Databases
- Introduction to Web Search Engines
- Registering a Web Site with a Search Engine
- Types of Web Searches
- Basic Web Searching Techniques
- Boolean Operators
- Advanced Web Searching Techniques

- Using Web Searches to Perform Job Tasks
- Unexpected Web Search Results
- Web Search Strategies
- Evaluating Resources
- Organizing Internet Research
- Citing Copyrighted Online Resources

E Mail and Personal Information Management

- Introduction to Electronic Mail (E Mail)
- How E Mail Works
- E Mail Configuration Requirements
- E Mail Message Components
- Creating and Sending E Mail Messages
- Receiving and Viewing E Mail Messages
- E Mail in the Workplace
- E Mail Problems and Solutions
- Personal Information Management (PIM)

Internet Services and Tools

- Internet Resource Tools
- Newsgroups
- List Servers and Listserv Groups
- Telnet
- File Transfer Protocol (FTP)
- Managing Downloaded Files
- Virtual Network Computing (VNC) and Microsoft Terminal Services
- Peer-to-Peer Networks

Lightweight Directory Access Protocol (LDAP)
Concurrent Versions System (CVS)
Troubleshooting Using TCP/IP Tools
Universal Development Models
Open-Source Development
Proprietary Software and EULAs
Software Patents

Internet Communication

Communicating via the Internet
Modern Web Technologies
Social Networking
Messaging
Blogging
Communicating Effectively over the Internet
Convergence and Unified Communications Technologies

Internet Security

Introduction to Internet Security
Encryption

Authentication
Firewalls
Malware (Malicious Software)
Virus Detection and Prevention
Spyware
Updates and Patches
Screen Savers
Security-Related Ethical and Legal Issues
Typosquatting

IT Project and Program Management

Overview of IT Project and Program Management
Project Management Fundamentals
Project Management Skills
Project Management Phases
The Project Triangle
Project Management Software
Creating Project Schedules
Documenting Projects

Planning and Scheduling Meetings
Reviewing Projects
Quality Assurance
Business Implications of IT Projects
Project Management Institute (PMI)
Program Management
Managing Downloaded Files
Virtual Network Computing (VNC) and Microsoft Terminal Services
Instant Messaging
Peer-to-Peer Networks
Lightweight Directory Access Protocol (LDAP)
Concurrent Versions System (CVS)
Communicating Effectively over the Internet
Troubleshooting Using TCP/IP Tools

Target Audience

All professionals required to use the Internet in their daily job functions. Information in this course is required for all levels of specialization in the CIW program.

Job Responsibilities

Understand the common core of Internet knowledge, and apply the foundation skills required for further specialization.

Prerequisites

No prior experience using the Internet, developing Web pages or configuring networks is necessary. However, students should be familiar with an operating system such as Microsoft Windows Vista before taking this course. The CIW Foundations courseware does not provide entry-level computer literacy. Rather, it builds upon computer literacy training and certifications such as Microsoft Office Specialist (www.microsoft.com) and IC³ (www.certipoint.com).

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Site Development Foundations v2.0



Site Development Foundations teaches you essential Web page development skills. You will learn to develop Web sites using Hypertext Markup Language (HTML) and Extensible HTML (XHTML). You will learn to write code manually, as well as use graphical user interface (GUI) authoring tools. You will also learn to insert images, create hyperlinks, and add tables, forms and frames to your Web pages.

In addition to learning about XHTML and HTML coding, you will learn about CGI and use it to connect Web pages to databases. Other topics include validating your XHTML code, recognizing the importance of Internet marketing and search engine optimization, using style sheets to format Web page content, and implementing fundamental design concepts. Throughout the course, you will learn how Web sites are developed as managed projects. You will also identify e-commerce solutions and relate Web site development to business goals.

Site Development Foundations provides an introduction to tasks, job roles and careers in Web development. This course will teach you to work as a productive part of a Web site development team. Hands-on labs include real-world scenarios based on a previously live version of the Habitat For Humanity site. Note that students will build prototype pages using Habitat For Humanity content. This content is provided by Habitat For Humanity with permission to use it in labs teaching site development skills. The prototype pages that students build do not necessarily represent, duplicate or simulate the current live Habitat For Humanity Web site, which can be visited at www.habitat.org.

Topics

Introduction to Web Site Development

- Developing a Business Web Site
- Creating Web Pages
- Text Editors and Markup Languages
- Graphical User Interface (GUI) Editors
- Front-End Issues
- Back-End Issues
- The Habitat For Humanity Web Site

Markup Language and Site Development Essentials

- History of Markup Languages
- Web Site Development Principles

XHTML Coding

- Introduction to Using XHTML
- Markup Tags
- Document Structure Tags
- Web Site File Structure
- Preparing Your Development Environment
- Style Sheets
- Paragraph Formatting and Block-Level Elements
- Text-Level Elements
- Lists
- Good Coding Practice

Horizontal Rules and Graphical Elements

- Horizontal Rules in XHTML
- Images in Web Pages
- Special Characters

- Specifying Colors
- Page Colors and Backgrounds
- Specifying Font Information
- Web Design Issues

Hyperlinks

- Introduction to Hyperlinks
- The Anchor Tag
- Creating Local Hyperlinks
- Creating External Hyperlinks
- Using Images as Hyperlinks
- Creating Internal Links
- Managing Hyperlinks

HTML Tables

- Introduction to HTML Tables
- Table and Data Alignment Options
- Height and Width of Table Elements
- Column and Row Spanning
- Formatting Content in Tables

Web Forms

- Introduction to Web Forms
- Web Forms and CGI
- Basic Tags for Creating Web Forms
- Web Form Fields

Image Techniques

- Introduction to Web Image Techniques
- Image Maps
- Image Transparency
- Image Interlacing
- Animation
- Creating and Managing Images

HTML Frames

- Introduction to XHTML Frames
- The <frameset> Tag
- The <frame> Tag
- The Frameset Document
- The <noframes> Tag
- Targeting Frames with Hyperlinks
- Specifying a Base Target
- Borders, Margins and Scrolling
- Inline Frames
- Appropriate Use of Frames
- Frames and Search Engine Optimization

GUI HTML Editors

- Introduction to GUI HTML Editors
- Types of GUI Editors
- GUI HTML Editor Functionality
- Creating Web Pages with a GUI Editor
- HTML Text Editors vs. GUI Editors
- Previewing Pages and Validating Code
- Web Site Publishing

Advanced Web Technologies

- Extending HTML
- Server-Side and Client-Side Languages
- Server-Side Languages
- Client-Side Languages
- Connecting to a Database
- Styling Techniques with CSS
- Dynamic HTML (DHTML)
- Document Object Model (DOM)

Developing Web Pages for PDAs and Smart Clients
Web Application Frameworks
Creating Aliases with TinyURL
Working with Advanced Web Technologies
Hosting and Web Service Providers

E-Commerce Practices
Traditional Commerce vs. E-Commerce
E-Commerce Models
Business and Internet Technologies
Internet Marketing and Search Engine Optimization (SEO)

E-Commerce Information-Formatting Technologies
E-Commerce Payment Technologies
Working in a Global Environment

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Prerequisites

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Network Technology Foundations v2.0



Network Technology Foundations teaches essential networking technologies and skills, including TCP/IP, stable network creation, wireless networking and network troubleshooting. You will learn to use various network components and protocols that enable users to share data quickly and easily. You will explore the different types of transmission media, and will learn how network architecture and topologies provide for efficient and secure communication. In addition, you will learn about the OSI reference model and its relationship to packet creation, and you will compare and contrast the OSI model with the Internet architecture model.

You will study the functions and features of internetworking server types, and learn about the benefits of implementing a Content Management System (CMS). You will also achieve competency in performing basic hardware and operating system maintenance procedures. In addition, you will learn about mobile computing devices and the importance of RFC documents.

You will also learn about the importance of routing, and will explore IP addressing, IP address classes and subnet masks. Finally, you will explore essential network security concepts, Internet-based challenges facing today's users, and methods you can use to secure networks and network transmissions, including authentication, encryption and firewalls.

Topics

Introduction to Networking

Overview of Networks and Protocols
Telephony and Convergence
Networking
Networking Evolution
Client/Server Model
Network Operations Center (NOC)
Networking Categories
Network Topologies
Network Operating System
Microsoft Windows Servers
UNIX/Linux
The Need for Protocols
OSI Reference Model
Data Encapsulation
Packets
OSI/RM Protocol Examples
TCP/IP
IPX/SPX
Binding Protocols
Local Area Network (LAN)
Wide Area Network (WAN)
Internet Exchange Point (IXP)
Common Network Components
Transmission Media
Wireless Network Technologies
Transmission Types
IEEE LAN Standards
T-Carrier System
E-Carrier System
SONET/SDH
Downloading Files with BitTorrent
Virtualization

TCP/IP Suite and Internet

Addressing
Introduction to TCP/IP
Internet Architecture

Requests for Comments (RFCs)

Internet Protocols
Demultiplexing
Introduction to Routing
Routing Protocols
Port Numbers
Internet Addressing
Subnet Mask
Internet Address Classes
Internet Protocol Version 6 (IPv6)
System Configuration and IP Addresses
Diagnostic Tools for Internet Troubleshooting

Internetworking Servers

Overview of Internetworking Servers
File and Print Servers
HTTP Server Essentials
Database Servers
Proxy Servers
Mail Servers
Instant Messaging (IM)
Mailing List Servers
Media Servers
DNS Servers
FTP Servers
News Servers
Certificate Servers
Directory Servers
Fax Servers
Transaction Servers
Choosing Web Server Products
Content Management System (CMS)

Hardware and Operating System

Maintenance
Basic Hardware and System Maintenance

Motherboard

IRQs, I/O Addresses and DMA
Mass Storage Device Interfaces
Network Interface Card (NIC)
Common Peripheral Ports
Power Requirements
Optical Discs
TV Tuner Card
HDMI Connections
Mobile Computing
Netbooks
Client Operating System Management
Software Licensing
Partitions and Logical Drives
File System Types
File System Management Tools
Troubleshooting Software
Remote Management and Troubleshooting

Network Security and Personal Privacy Protection

Importance of Network Security
Viruses and Worms
Overview of Network Attack Types
Defeating Attacks
Authentication
Encryption
Firewalls
Firewall Topologies
Security Zones
Virtual Private Network (VPN)
Security Audit
Uninterruptible Power Supply (UPS)
Personal Privacy and the Internet
Personal Protection and the Internet

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